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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/596,912

04/30/2007

Geza Schrauf

A7693PCT-UT

2168

43749

7590

06/12/2009

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EXAMINER

BROOKMAN, STEPHEN A

ART UNIT

PAPER NUMBER

3644

MAIL DATE

DELIVERY MODE

06/12/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/596,912	SCHRAUF, GEZA	
	Examiner	Art Unit	
	Stephen Brookman	3644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/30/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “fresh air outlets of the air-conditioning system” connected to a conduit connection and the air mixer unit as in Claim 3 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2, 3, 4, and 7-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Specifically regarding Claim 2, it is unclear whether applicant is intending to claim structure or method steps in "the air-conditioning system having an air mixer," as the recitation of structure here does not define a method step, and the remainder of the claim therefore lacks antecedent basis for "the air mixer of the air conditioning system."

Claim 3 recites the limitation "the air mixer unit" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 4 recites the limitation "the unpressurized line region" in line 2. There is insufficient antecedent basis for this limitation in the claim. Even if there was proper antecedent basis, the examiner is unclear as to what this region would be.

Specifically regarding Claim 7, it is unclear what role "the exhaust" plays in the device, as it appears in the claim that "an outlet of the air-conditioning system" is the exit point of the suctioned air and the exhaust air of the air-conditioning

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system. How is "the exhaust" adapted to do something that "an outlet of the air conditioning system" is already doing? Are these the same elements?

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-4, 6-8, 10, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Breit (U.S. Patent 5,884,873).

Regarding Claims 1, 7, and 10, Breit teaches a device and method for suctioning a boundary layer (10B) at a wing or tail surface (Column 4, lines 51-55) of an aircraft having an air-conditioning system (indicated near reference numeral 8) by using suction openings (10A, pluralized in Claim 1) for boundary layer suctioning, the openings positioned at flow-critical points of the surface (i.e. where the boundary layer is to be sucked in, flow-critical areas Column 1 line 8), the device comprising:

- A duct system (13A, 14A, 15A) and exhaust (near reference character 3, into nonpressurized section 11)
- feeding an air quantity via the duct system suctioned from the surface to the air conditioner system of the aircraft (Figure 1, with valve/pump 3 being part of the air conditioner system by being integrated into the air conditioner system and the boundary layer suction system, therefore

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being part of both, such that the air conditioner vent 1 feeds used air conditioner air to valve/pump 3 and the suctioned air also goes to valve/pump 3) to reduce flow losses

- wherein the exhaust is adapted such that the air quantity suctioned exits to the atmosphere (non pressurized section 11 has an atmosphere) together with the exhaust air of the air conditioning system via an outlet of the air conditioning system (ejected air includes used air 13A and sucked off air 15A as in Figure 1, via outlet 3)

Regarding Claims 2 and 8, the air-conditioning system has an air mixer and the air quantity suctioned is fed to the air mixer unit (i.e. lines 13 and 15 meet at 3 and are mixed at the air conditioner exit 3). The duct system discharges into the air mixer (Figure 1).

Regarding Claim 3, the air suctioned is fed to a conduit connection which connects a plurality of fresh air outlets of the air conditioning system to the air mixer unit (i.e. the suctioned air is fed through conduit connection 3 where 13 and 15 meet, and this conduit connection connects fresh air outlets inherent in the interior of the cabin to the air mixer unit via the pathways of air within the cabin and conduit 13A of the air conditioning system).

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Regarding Claim 4, the air quantity suctioned is fed to a line connection assigned to the unpressurized line region (i.e. the air suctioned through 10A is fed to a line connection 15A which is in the region of the not-pressurized section 11 as in Figure 1).

Regarding Claim 6, the temperature of the suctioned air is inherently adjusted by mixing with cabin air.

Regarding Claim 11, the ejector (3) is a suction source which connects to the duct system for generating suction effect for suctioning.

6. Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Coffinberry (U.S. Patent 5,114,103).

Regarding Claims 1, 7, and 10, Coffinberry teaches a device and method for suctioning a boundary layer (on 180) at a wing assembly surface of an aircraft having an air-conditioning system (i.e. cooling system 135 for ECS, Column 6, lines 4-6) by using suction openings (perforations in 194) for boundary layer suctioning, the openings positioned at flow-critical points of the surface (i.e. where the boundary layer is to be sucked in, at areas where turbulence is an issue), the device comprising:

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- A duct system (ducting shown in Figure 2 as air connections between parts, including, for instance, ECS cooling duct 300) and exhaust (leaving 116, for cabin air cooling as described for cycle 135)
- feeding an air quantity via the duct system suctioned from the surface to the air conditioner system of the aircraft (Column 5, lines 55-65 and Column 6, lines 4-15, such that boundary layer air is sent through heat exchanger and air conditioner, to reduce flow losses as in Column 6, lines 26-39)
- wherein the exhaust is adapted such that the air quantity suctioned exits to the atmosphere together with the exhaust air of the air-conditioning system via an outlet of the air-conditioning system (i.e. the suctioned air goes through the air conditioner system, including heat exchangers 110 and 116 and eventually becomes the exhaust air of the air-conditioning system, such that the air already in the system mixes with the suctioned air, and it all exits as air conditioner air itself, into the cabin atmosphere via the exit from 116)

Regarding Claims 2 and 8, the air conditioning system has an air mixer (110, mixing various temperatures of air), further performing the step of feeding the air quantity suctioned to the air mixer unit (Figure 2). The duct system discharges into the air mixer.

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Regarding Claim 3, the air quantity suctioned is fed to a conduit connection (including, for example, 128, or the conduits and ducts from 116, which go to the air conditioning system) which connects a plurality of fresh air outlets of the air conditioning system (i.e. within the cabin, inherently there are several fresh air outlets for passengers, in the form of vents for the air conditioning service, all items being connected via ducting and conduits) to the air mixer unit (110, all items being connected by inherent air ducts).

Regarding Claim 4, Coffinberry teaches feeding the air quantity suctioned to a line connection assigned to the unpressurized line region (i.e. 310 feeds the air at non-cabin pressure levels to the compressor 120, that is, 310 is an unpressurized line region).

Regarding Claims 5 and 9, Coffinberry further teaches a compression unit which is integrated into the duct system (cabin air compressor 120, part of the ducting system by being attached) and the air quantity suctioned is brought to cabin pressure by this unit before introduction into the air-conditioning system and before introduction into the cabin (i.e. being a "cabin air compressor" and directing air into the aircraft cabin, it inherently brings the air to cabin pressure, and it does so before going into the a/c system as in Figure 2, further description is in Column 4, lines 3-13, in which the ECS compressors provide cabin air, and

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in Column 5, lines 56-63, such that 120 sends air to the cabin after being cooled in 110 and 116).

Regarding Claim 6, the temperature is adjusted (i.e. in heat exchangers 110 and 116) by the air quantity suctioned in the air conditioner system.

Regarding Claim 11, Coffinberry teaches a suction source (120) wherein the duct system (all conduits, including 300, 310, 320, etc) is connected to the suction source for generating a suction effect required for the suctioning (i.e. 300 is connected to 120, which is the compressor suctioning the boundary layer).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Brookman whose telephone number is (571) 270-5513. The examiner can normally be reached on Monday through Thursday 10:00 AM EST to 4:00 PM EST, away alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Mansen can be reached on (571) 272-6608. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. B./
Examiner, Art Unit 3644

/Michael R Mansen/
Supervisory Patent Examiner, Art Unit 3644